

REMARKS

This Response is filed in reply to the non-final Office Action dated January 19, 2010, issued in connection with the above-identified application. Claims 15-22 and 24-28 are pending in the present application. With this Response, no claims have been amended and no new matter has been introduced. Favorable reconsideration is respectfully requested.

In the Office Action, claims 15-17 and 24-28 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Shikakura et al. (U.S. Patent No. 6,108,379, hereafter “Shikakura”) in view of Nishida (U.S. Patent No. 6,519,007, hereafter “Nishida”).

The Applicants maintain that the cited prior art fails to disclose or suggest all the features recited in at least independent claims 15 and 26-28. For example, independent claim 15 recites the following features:

“[a] broadcast receiving apparatus comprising:

a receiver which receives a first TV broadcast signal and a second TV broadcast signal, each of the first TV broadcast signal and the second TV broadcast signal including video data for reproducing an image, wherein an image to be reproduced from the first TV broadcast signal is of higher quality than an image to be reproduced from the second TV broadcast signal;

a first decoder which decodes the first TV broadcast signal received by said receiver;

a second decoder which decodes the second TV broadcast signal received by said receiver;

a detector which detects a decoding error part of the first TV broadcast signal decoded by said first decoder; and

a synthesizer which generates a composite signal obtained by replacing the decoding error part of the first TV broadcast signal detected by the detector with a corresponding part of the second TV broadcast signal decoded by said second decoder,

wherein the first TV broadcast signal and the second TV broadcast signal are each a digital TV broadcast signal, and the first TV broadcast signal has a content identical to a content of the second TV broadcast signal and provides video data of a quality higher than a quality of the second TV broadcast signal.” (Emphasis added).

The features emphasized above in independent claim 15 are similarly recited in independent claims 26-28. That is, independent claims 26-28 include the features of the “detector” and “synthesizer” of independent claim 15. Additionally, the features emphasized

above in independent claim 15 (and similarly recited in independent claims 26-28) are fully supported by the Applicants' disclosure (see e.g., pgs. 10-12).

The present invention (as recited in independent claims 15 and 26-28) is distinguishable from the cited prior art in that broadcast receiving includes directly detecting a decoding error portion if any, irrespectively of the existence of an insufficient part of a first TV broadcast. Additionally, a synthesizing operation replaces only the decoding error part (as detected in the first TV broadcast signal) with the corresponding part of the second TV broadcast signal.

According to the present invention (as recited in independent claims 15 and 26-28), the entire block region is not subjected to replacement, only the decoding error part. The decoding error part is replaced with the corresponding part of the second TV broadcast signal. Therefore, it is possible to obtain image data of higher quality while avoiding unnecessary replacement with the second TV broadcast signal (see also, Fig. 2).

In the Office Action, the Examiner relies on the combination of Shikakura and Nishida for disclosing or suggesting all the features recited in independent claims 15 and 26-28. However, the Examiner relies primarily on Nishida for disclosing or suggesting the features of the "detector" and "synthesizer" emphasized above in independent claim 15 (and similarly recited in independent claims 26-28).

Briefly, in Shikakura, signals to be decoded are a low-quality bit stream (i.e., obtained by compressing an original image signal), and a residual bit stream (i.e., a compressed signal obtained by extracting from the original image signal lower-quality video signals as decoded low-quality bit stream). The residual video signal obtained by decoding the residual bit stream is then synthesized with the low-quality image signal to reproduce the original image signal (i.e., high-quality image signal). As admitted by the Examiner, in Shikakura, an image signal cannot be obtained from the residual bit stream or the residual image signal.

The Examiner relies on Nishida for overcoming the deficiencies in Shikakura. However, the Applicants disagree with the Examiner interpretation of Nishida.

Nishida discloses a video data transmitting method for transmitting video data from a transmitter to a receiver that includes dividing one screen of video data into specified rectangular areas, and generating at least two types of video data (i.e., first and second video data), wherein each type of video data has a different resolution from video data existing in the rectangular

areas. As described in Nishida, the two types of video data are then transmitted as one video data (i.e., video data for transmission).

More specifically, in Nishida, the first video data (corresponding to the first TV broadcast signal) is divided into units differently (see e.g., col.3, lines 53-57). Furthermore, in Nishida, it is then determined which of the units of divided data is sufficient (see e.g., col. 4, line 66-col. 5, line 4), and units that are determined to be insufficient are replaced with the second video data (corresponding to the second TV broadcast signal) (see e.g., col. 5, lines 5-11).

At best, Nishida discloses detecting which parts of the divided data of one screen is insufficient. If a part of the first video data is detected to be insufficient, the first video data is replaced with the second video data. However, Nishida does not disclose or suggest detection of a decoding error part directly, as in the present invention (as recited in independent claims 15 and 26-28).

In the present invention (as recited in independent claims 15 and 26-28), broadcast receiving includes directly detecting a decoding error portion if any, irrespective of the existence of an insufficient part of the first TV broadcast signal. Additionally, a synthesizing operation replaces only the decoding error part (as detected in the first TV broadcast signal) with the corresponding part of the second TV broadcast signal.

Thus, the entire block region is not subjected to replacement, only the decoding error part. The decoding error part is replaced with the corresponding part of the second TV broadcast signal. With the present invention (as recited in independent claims 15 and 26-28), it is possible to obtain image data of higher quality while avoiding unnecessary replacement with the second TV broadcast signal.

Based on the above discussion, no combination of Shikakura and Nishida would result in, or otherwise render obvious, independent claims 15 and 26-28. Likewise, no combination of Shikakura and Nishida would result in, or otherwise render obvious, claims 16, 17, 24 and 25 at least by virtue of their dependencies from independent claim 15.

In the Office Action, claim 18 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Shikakura in view of Nishida, and further in view of Hatabu et al. (U.S. Publication No. 2005/0117643, hereafter “Hatabu”); and claims 19-22 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Shikakura in view of Nishida, and further in view of Karaoguz et al. (U.S. Publication No. 2005/0066089, hereafter “Karaoguz”).

Claims 18-22 depend (directly or indirectly) from independent claim 15. As noted above, Shikakura and Nishida fail to disclose or suggest all the features recited in independent claim 15. Additionally, Hatabu and Karaoguz fail to overcome the deficiencies noted above in Shikakura and Nishida. Accordingly, no combination of Shikakura and Nishida with Hatabu or Karaguz would result in, or otherwise render obvious, claims 18-22 at least by virtue of their dependencies from independent claim 15.

In light of the above, the Applicants submit that all the pending claims are patentable over the prior art of record. The Applicants respectfully request that the Examiner withdraw the rejections presented in the outstanding Office Action, and pass the present application to issue. Additionally, the Examiner is invited to contact the undersigned attorney by telephone to resolve any remaining issues in the present application.

Respectfully submitted,

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